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ABSTRACT

Using data from the Cooperative Institutional Research Program of students who were college freshmen in 1986 and responded to a follow-up survey in 1990, this study examined differences in degree aspirations and attainment between intercollegiate football or basketball players (N=158) and other intercollegiate athletes (N=801). Although there were significant differences in most background characteristics between the two groups, there was no difference in their mean degree aspiration at the start of their first year of college. Four years later, however, football and basketball players had significantly lower degree attainment and degree aspirations than their counterparts who played other intercollegiate sports. More importantly, even when background characteristics and initial degree aspirations were statistically controlled for in multiple regression analysis, the degree aspirations of football and basketball players significantly dropped while the degree aspirations of those playing other sports did not change. Outcomes were differentially negative not only for male but also for female athletes in the football and basketball group compared to those in other sports. Time devoted to athletics was not significantly different between the two groups of athletes. Peer group effects and role engulfment were suggested as possible explanations for the findings, and limitations to interpretability are discussed. (Contains 14 references.) (Author/JLS)

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Differences in Degree Aspirations and Attainment Outcomes Between Football or Basketball Players and Other Intercollegiate Athletes

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This paper was presented at the annual meeting of the Association for the Study of Higher Education held in Memphis, Tennessee, October 31 - November 3, 1996. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

Differences in Degree Aspirations and Attainment Outcomes Between Football or Basketball Players and Other Intercollegiate Athletes

Abstract

Using data from the Cooperative Institutional Research Program (CIRP) of students who were college freshman in 1986 and responded to a follow-up survey in 1990, this study examines differences in degree aspirations and attainment between intercollegiate football or basketball players and other intercollegiate athletes. Although there are significant differences in most background characteristics between the two groups, there is no difference in their mean degree aspiration at the start of their first year of college. Four years later, however, football and basketball players have significantly lower degree attainment and degree aspirations than their counterparts who play other intercollegiate sports. More importantly, even when background characteristics and initial degree aspirations are statistically controlled for in multiple regression analysis, the degree aspirations of football and basketball players have significantly dropped while the degree aspirations of those playing other sports have not changed. Outcomes are differentially negative not only for male but also for female athletes in the football and basketball group compared to those in other sports. Time devoted to athletics is not significantly different between the two groups of athletes. Peer group effects and role engulfment are evaluated as possible explanations for the findings, and limitations to interpretability are discussed.

Differences in Degree Aspirations and Attainment Outcomes Between Football or Basketball Players and Other Intercollegiate Athletes

Introduction

Hardly a week goes by when there is not a story in the popular or higher education press debating the merits of intercollegiate athletics. For more than a century, intercollegiate sports have been a major facet of campus life at American colleges and universities (Rudolph, 1990). Promoters and fans praise college sports for their community building and revenue generating capacities, their entertainment value and role in developing teamwork and leadership skills among athletes. Detractors, meanwhile, point to frequent recruitment scandals, the high net cost of most programs, and the poor academic record of many players. As the most visible and most profitable of sports (or costly, depending on the institution), intercollegiate football and basketball have been at the center of the college athletics controversy. In particular, there continues to be great debate over the impact of participation in these big-money sports on students' educational and career development, especially for minority and low-income students.

Research Findings

Research findings on the effects of intercollegiate athletics on academic and career achievement have been mixed. Pascarella and Terenzini's (1991) review of research on athletics and career preparation indicates that college athletes, especially football and basketball players, tend to be lower in measures of career maturity, defined as "the extent to which a person has accomplished career development tasks, the ability to formulate career plans, and the accuracy of knowledge and degree of certainty about one's intended career." (p. 477). They point out, however, that none of the reviewed studies controlled for the influences of self-selection and other confounding variables, so it is not possible to attribute a causal role to athletics participation. On the other hand, Adelman (1990) found from data in the National Longitudinal Study of the High School Class of 1972 (NLS 72 and follow-up studies through 1986) that intercollegiate football and basketball players had only a slightly lower rate of college graduation, and by age 32, had

comparatively high incomes, the lowest rate of unemployment, and the highest rate of home ownership of all groups studied. The fact that Adelman did not statistically control for the relatively poor high school records and low socioeconomic status (SES) of many of these athletes, in this case, makes his revelation of their later success even more noteworthy rather than less so.

Following a model intended to distinguish the true impact of the college environment from other influences before and during the college years, several researchers have controlled for precollege characteristics in studying the impact of intercollegiate athletics on student outcomes. Pascarella and Smart (1990, cited in Pascarella and Terenzini, 1991) found that, after controlling for socioeconomic status, academic background, college selectivity, college grades, and even educational aspirations, male intercollegiate athletes had a slightly higher likelihood of earning a bachelor's degree within nine years than non-athletes. Ryan (1989) used data from a national sample of students to show that participation in college athletics had positive net impacts on interpersonal and leadership skills. In contrast, Astin (1993), also using a national dataset, found that any enhancement of leadership skills was offset by poorer performance by college athletes on several standardized tests commonly used in admissions to graduate and professional programs. Unlike Adelman, though, none of these researchers distinguished between the outcomes associated with revenue-producing sports like football and basketball, and those associated with other intercollegiate sports.

More recently, Pascarella, et al., (1995) studied a random sample of students at 18 two and four year institutions and found that intercollegiate football and basketball players showed net losses during the freshman year on standardized tests of reading comprehension and mathematics, while students in other sports and non-athletes made modest gains. While this study did not follow students beyond the freshman year, it is important for two reasons. First, it is the only study to my knowledge that controls for precollege SES, academic preparation, and academic motivation, while also distinguishing students in the "big-money" sports of football and basketball from those in other intercollegiate sports. Second, it provides disturbing evidence that a down-graded curriculum that many football and basketball players take, often at the insistence of their coaches and designed

specifically for them (Adelman, 1990; Adler & Adler, 1991), may significantly reduce the educational value of their time in college. While Adelman found impressive levels of career success among ex-football and basketball players at age 32 in 1986, these individuals tended to be in lower status occupations that had less mobility after that age. With the past decade's declines in high wage manufacturing and industrial jobs, it is likely that the social capital afforded high-profile college athletes will cease -- soon, if it has not already -- to benefit their careers as much as the educational capital gained by non-athletes and athletes in other intercollegiate sports. If this is the case, then both quality and quantity of education will become increasingly important to the career success of all students, and especially minority and low income students.

One of the ways that college improves the career outlook for students is by helping them maintain or raise the degree aspirations with which they begin college. According to Astin (1977), "The student's degree aspirations at the time of college entrance are the most potent predictors of enrollment in graduate or professional schools." (p. 112) While students may not achieve their full aspirations, it is reasonable to assume that aspirations are a prerequisite for achievement. That is to say, students will not achieve a degree that they do not aspire to. Hanson (1994) describes the phenomenon of "lost talent" as occurring "when students who show signs of early talent (1) have educational expectations that fall short of their aspirations, (2) have reduced expectations over time, or (3) are not able to realize their earlier expectations" (p. 150). Her [illegible] functionalist, socialization models, which claim to account for [illegible] differences in motivation and learned skills, will evidence that [illegible] status often experience declines in their expectations for educational attainment even though their aspirations (hopes) remain high. In a five-year long ethnographic study of one NCAA division 1 basketball team, Adler and Adler (1988; 1991) found that the varied sets of educational and life goals with which players entered college rapidly shrank to the single goal of winning games by a process they describe as "role engulfment". While a number of factors contributed to this narrowing of aspirations, including players' own choices and encouragement by fans, Adler and Adler describe in detail how the coach intentionally orchestrated the process of role engulfment in

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order to obtain the extreme loyalty from players he believed he needed in order to meet high performance athletic goals.

Research Questions and Hypothesis

Because big-money college athletics are often defended as an opportunity for minority and low-income youth to fulfill educational dreams they could not otherwise afford, I wanted to know three things: (1) How do the initial freshman year degree aspirations of intercollegiate football and basketball players compare to those of other students, especially other intercollegiate athletes? (2) How does actual degree completion compare for these groups of athletes and non-athletes? and (3) What influence does participation in intercollegiate sports have on changes in educational aspirations during the college years? From this initial set of questions, a secondary set of questions emerged: (1) Who are intercollegiate football and basketball players, and how do they differ from other intercollegiate athletes even before they begin college? (2) Are these differences in precollege characteristics enough to explain any differences found in outcomes? (3) Do football and basketball players spend more time at sports than other intercollegiate athletes, and if so, could this explain some of the difference in outcomes for these groups of students? and (4) Is playing a major intercollegiate sport associated with similar outcomes for women, or do women's outcomes differ from those of male athletes? This last question is potentially important because claims are often made that differences in educational outcomes between football or basketball players and other intercollegiate athletes are due to their differing expectations for careers as professional athletes rather than to any particular influence of the program itself. Since extremely few women can expect to "go pro" after college, women provide some degree of statistical control for athletic career expectations among college athletes in major sports, though it is admittedly only a crude proxy for what students might believe about their opportunities.

At the beginning of this study, I expected stronger negative findings for initial degree aspiration, degree attainment, and change in degree aspiration associated with participation in

intercollegiate football and basketball when compared to participation in other intercollegiate sports. However, because higher socioeconomic status can enhance academic outcomes through a number of pathways, and because I expected football and basketball to involve more low SES students, I expected that race and family income would explain some of the differences between the two types of sports involvement. When measures of academic preparation, initial degree aspirations, and time spent playing sports were taken into account, I expected the differences in degree attainment and aspirations to disappear entirely. Finally, because women's sports offer less prestige and career potential than men's, I expected to find that female athletes in major sports would maintain their educational goals more steadfastly than male athletes.

Methods

Survey Data

This study utilized the longitudinal dataset of the Cooperative Institutional Research Program (CIRP) (Higher Education Research Institute, 1991). Self-report responses on the 1986 Freshman Survey and 1990 follow-up of the same students provided data for comparing 1990 outcomes of several groups of athletes and non-athletes, while controlling for various 1986 (freshman year) characteristics, and for comparing degree aspirations in 1990 to those in 1986.

Respondents

The dataset contained responses from 4408 American college students whose 1990 surveys could be matched with 1986 surveys. Of these respondents, 49% were male (n = 2147) and 51% were female (n = 2256). Approximately 87% were white, 7% were black, 3% were Asian or Asian-American, and the remaining 3% were either American Indian, Chicano, Puerto Rican, or listed as "other". Approximately 75% (n = 3309) played no intercollegiate sport, another 18% (n = 801) played an intercollegiate sport other than football or basketball, about 4% (n = 158) played intercollegiate football or basketball, and the remaining 3% (n = 135) played both football or

basketball and some other intercollegiate sport. When taken together (since these categories do not overlap), the three intercollegiate athletic groups comprised roughly 25% of the cases in the dataset, or 1094 students.

Variables

Table 1 lists the variables I used in my analyses and their scales of measurement. Variables reporting sports involvement were the predictor variables in the analyses. The criterion variables were degree earned in 1990, degree aspirations in 1990, and change in degree aspirations from 1986 to 1990. Control variables were sex, race, family income, high school grades, SAT scores, degree aspirations in 1986, and time students spent playing sports and exercising.

I included sex, race, and family income as student background measures, because these variables are likely to influence both a student's educational achievement and also what sport he or she plays (Adelman, 1990; Pascarella and Terenzini, 1991; Astin, 1993). For various economic and cultural reasons, many "other" intercollegiate sports, particularly individual performance sports such as tennis, swimming, gymnastics, and golf, attract fewer low income and minority youth than football and basketball. Therefore, participation in those sports is likely to indicate socioeconomic advantages that facilitate academic achievement, but that do not accrue to the student because of the sport itself. The influence of the sport itself, then, can only be gauged after the influence of these background characteristics have been taken into account. In addition, as noted above, I included sex as a proxy for beliefs that students might have regarding opportunities to develop their college athletic involvements into careers as professional athletes.

High school grade point average (GPA) and Scholastic Aptitude Test scores (SAT, combined math and verbal scores) provide indications of academic preparation upon entering college, while degree aspirations in 1986 (the freshman year) indicates students' educational plans. Like with the background characteristics, it is important to eliminate these initial indications of academic standing and orientation in order to illuminate true distinctions between the effects of football or basketball and other intercollegiate sports. I examined the number of hours per week

students reported playing sports or exercising as an intermediate variable that might suggest the path by which differences among academic outcomes for different sports groups occur. According to Astin's (1984) "Theory of Student Involvement", the strength of effect that particular aspects of the college environment have on students is a function of the quantity and quality of effort students devote to those particular college activities. Time is one measure of involvement, though it is an incomplete one since it measures only quantity and not quality of effort. However, since institutions can alter the demands they place on student athletes' time more readily than they can alter peer group influences and particular sport cultures, time involvement is a logical place to start when looking for a solution to any undesirable outcomes associated with particular college sports.

The independent variable in this study is college sports participation. This variable divides students into the four groups described above: non-participants, football or basketball players, other intercollegiate athletes, and those who report participation in both football or basketball and some other intercollegiate sport. Non-participants may not be non-athletes, however, as some of them probably engage in intramural athletics. I assume that women in the FB/BB group (n = 33) and "both" group (n = 40) play basketball but not football. In some of the analyses, I use a dichotomous variant of this measure that comprises only the Other and FB/BB groups.

Again, the dependent variables are: (1) The highest degree students had earned by the 1990 follow-up survey (four years after the freshman year); (2) Their degree aspirations in 1990; and (3) The change in their degree aspirations between 1986 and 1990. In light of Hanson's (1994) distinction between educational "expectations" and "aspirations", it is important to note the meaning of what I am calling "degree aspirations". The 1986 measure derives from a survey question that asks students "What is the highest academic degree that you intend to obtain?" Over the column in which respondents mark their answers, the label reads "Highest Planned". The 1990 measure derives from a two-part survey item, the relevant part of which asks students to "Please indicate. . .the highest degree you plan to complete." The answer column reads "Highest Degree Planned." In my judgment the words "intend" and "plan" are synonymous in this context, but it is not clear whether they relate more closely to Hanson's "expectations (the education that individuals

expected to achieve)" or "aspirations (the education they *hoped* to achieve)". (p. 159) Because other literature analyzing the CIRP data (Astin, 1993) calls this variable "degree aspirations", I have done so as well for the sake of consistency. However, I am not entirely comfortable with that term as I doubt that it captures the same responses that a question asking about educational "hopes" would. Since I am also doubtful that it elicits exactly the same responses that a question asking students to report the highest degree they "expect" to achieve, I have not changed the label in that direction either, but advise readers to take into account the actual wording of the survey items when a more precise interpretation of the response is warranted.

----Insert Table 1 about here----

Analysis

I began my analysis by examining whether the four groups of intercollegiate athletes and non-participants differed in either the highest degree they had earned by 1990, or the degree aspirations they held in 1990. I used chi-square analyses to determine whether the distributions of answers on these two dependent variables differed significantly by group affiliation. I then used four paired t-tests, one for each sports group, to compare each group's mean degree aspiration in 1986 to its mean in 1990 to determine whether any of the groups had experienced significant changes in the four years since entering college. To find out whether there were significant differences specifically between football or basketball players and other intercollegiate athletes, I conducted t-tests comparing the means of the two groups for degree earned in 1990, and also for degree aspirations in 1990. To probe the possibility that differences might be due to beliefs about athletic career opportunities, I used t-tests comparing the women in the FB/BB group to the women in the Other group on measures of degree earned, and degree aspirations in 1990. For the same purpose, I used paired t-tests to compare mean degree aspirations in 1986 to the mean in 1990 for each of the two groups of female athletes. Lack of difference for women might also suggest a difference between football and basketball, since the women played basketball only. In the case of

such a finding (of no difference between women in the FF/BB and Other groups), further analysis would be needed with data in which football and basketball players were disaggregated to clarify the relative impacts of gender and sport type on the differences between male and female athletes.

Because the FB/BB group was the only group that had changed significantly, I devoted the remaining analyses to determining what was different about that group other than the type of sport played, and to what degree those confounding differences accounted for the change in degree aspirations. Since the purpose of the study was to examine assertions that playing a big-money sport has a unique impact on students unlike playing any other intercollegiate sport, the final comparisons involved only the FF/BB group and the Other group. In a sense, the Other group served as a control for generic intercollegiate athletics participation.

First I used t-tests to compare the two groups on all of the confounding variables (sex, race, family income, high school GPA, SAT scores, degree aspirations in 1986, and hours per week spent playing sports and exercising). This provided a general picture of how dissimilar the memberships of the two groups were even before participating in college athletics. I then used two multiple regression analyses to see whether differences in degree earned and degree aspirations in 1990 still existed after variances due to pre-existing group differences had been statistically accounted for. I structured the regressions so that the control variables were force-entered in four steps: (1) background characteristics in a single block (family income, sex, and race); (2) a block representing academic preparation (high school GPA, composite math + verbal SAT); (3) degree aspirations in 1986; and (4) hours per week playing sports or exercising. After all other variables had been entered, I entered the dichotomous independent variable representing the two sports groups of interest and noted its impact on the dependent variable of each regression (degree earned 1990, and degree aspirations 1990). Because degree aspiration in 1986 entered the regressions as a control variable, the regression in which degree aspiration in 1990 was the dependent variable also indicated the impact of playing football or basketball on changes in degree aspiration.

Results

The chi-square analyses revealed significant differences among the four groups in their distributions of highest degree earned in 1990 ($p < .001$) and degree aspirations in 1990 ($p < .01$). Paired t-tests comparing degree aspirations in 1986 to aspirations in 1990, however, revealed a significant change only for football and basketball players ($t = 2.94$, $df = 117$, $p < .01$). While degree aspirations for all the other groups were insignificantly higher in 1990, those for intercollegiate football and basketball players had significantly dropped. (table 2) Further t-tests indicated that football and basketball players typically had earned significantly lower degrees ($t = 2.62$, $df = 907$, $p < .01$), and had significantly lower degree aspirations in 1990 ($t = 3.71$, $df = 841$, $p < .001$) than athletes in other intercollegiate sports. T-tests comparing only women in the two intercollegiate sport groups still found a significant difference in degree aspirations in 1990 ($t = 2.47$, $df = 42$, $p < .05$), but not in degree earned. Women who played intercollegiate basketball had lower degree aspirations after four years than women who played other intercollegiate sports, despite having been equally successful in earning degrees. Paired t-tests found a significant drop in degree aspirations from 1986 to 1990 for women basketball players ($t = 2.35$, $df = 21$, $p < .05$), but not for women in other intercollegiate sports.

----Insert Table 2 about here----

Differences between the two intercollegiate sports groups on all of the background demographic and academic preparation measures suggested that the two groups were already quite different at the outset of the freshman year. T-tests for seven dichotomous race and ethnicity variables revealed that the two groups differed significantly in the number of black students they had, but not in any other race or ethnicity category. (The numbers of students in other minority

categories were very small.) As might be expected, football and basketball had more black players than other intercollegiate sports (t = -3.09, df = 181, $p < .01$). Compared to other intercollegiate athletes, football and basketball players also had significantly lower family incomes (t = 2.03, df = 236, $p < .05$), were less likely to be women (t = 7.06, df = 259, $p < .001$), had lower high school grade point averages (t = 2.02, df = 948, $p < .05$), and scored lower on the SAT (t = 2.42, df = 90, $p < .05$). The two groups did not differ significantly, however, in either freshman year (1986) degree aspirations, or the number of hours per week they reported spending on sports or exercise. (table 3)

----Insert Table 3 about here----

The results of the multiple regression analyses were mixed but noteworthy. After accounting for background measures, academic preparation, initial degree aspirations, and time devoted to athletics, I found no relationship between what kind of intercollegiate sport a student played and the highest degree he or she had earned by 1990. While family income, high school grades, and time spent on sports all had small significant positive relationships with degree earned, playing a big-money sport rather than some other intercollegiate sport showed no influence on this outcome.

In the second regression, the control variables similarly explained the majority of variation in 1990 degree aspirations. However, even after all other group differences were accounted for, playing football or basketball still inclined students toward lower degree aspirations in 1990 compared with other intercollegiate athletes, and toward a decline in degree aspirations between the freshman year and four years later. (table 4) Interestingly, sex and race showed no relationship to 1990 degree aspirations at any step of the regression, and although income started out as a significant predictor, it ceased to be significant after 1986 degree aspirations entered the model. Not too surprisingly, since the two groups had not differed significantly on this measure, hours per week playing sports and exercising showed no significant relationship to 1990 degree

aspirations either. As might be expected, by far the strongest predictor of degree aspiration in 1990 was degree aspiration in 1986. After that, the academic preparation measures, composite SAT score and high school grade point average, each accounted significantly for much smaller amounts of the variance, while playing football or basketball accounted (negatively) for slightly less than these.

----Insert Table 4 about here----

Discussion

Although there are significant differences in most of the background characteristics between those who play intercollegiate football or basketball, and those who play other intercollegiate sports, including lower family income and lower academic preparation measures, there is no difference in their degree aspirations at the start of their first year of college. Four years later, however, football and basketball players have significantly lower degree attainment and degree aspirations than their counterparts who play other intercollegiate sports. More importantly, their degree aspirations have significantly dropped while the degree aspirations of those playing other sports have not changed. Outcomes are differentially negative not only for males but for female athletes in the football and basketball group compared to counterparts in other sports, even though women are even less likely than men to achieve careers as professional athletes. Time devoted to athletics is not significantly different between the two groups of intercollegiate athletes.

Hierarchical regression reveals that the majority of the differences in outcomes can be attributed to initial degree aspirations and academic preparation, but not significantly to socioeconomic differences. After these variables are controlled, degree attainment at the four-year follow-up is not significantly affected by the type of intercollegiate sport played. However, playing intercollegiate football or basketball still inclines students toward lower educational aspirations after four years, and toward a decline in degree aspirations between the freshman year and four years later.

Although the negative effect on degree aspirations associated with playing football or basketball is not large, the data clearly corroborate earlier findings that big-money college athletics fail to support, and may even detract from, academic goals held by most colleges and universities. It is also clear that these problems are associated specifically with some sports, namely football and basketball, and not with all intercollegiate sports. On the contrary, there is some evidence in the data and in earlier literature that, in general, participating in intercollegiate sports is beneficial to graduation rates and degree aspirations, as long as the sport is *not* football or basketball. Even if a student plays football or basketball, playing an additional intercollegiate sport seems to moderate the negative effects rather than add to them. This finding, and the lack of difference between the number of hours football and basketball players and other intercollegiate athletes spend at sports refutes the idea that time is the critical determinant of their degree aspiration and attainment disparities. It is possible, however, that football and basketball players, because of their relatively poor academic preparation, cannot afford to spend as much time on athletics as their better prepared counterparts in other sports. The ultimate impact of having slightly decreased degree aspirations is not immediately obvious, but the fact that this outcome falls disproportionately on students who already have lower academic and socioeconomic statuses is especially troubling.

It is becoming more common in higher education to attribute unplanned effects -- both positive and negative, but especially the negative ones -- to peer group influence. In debates over the numerous problems associated with intercollegiate football and basketball, many people retreat to this explanation as if to say that institutions cannot be held responsible for all human differences, and certainly should not abridge anyone's right to free association. Yet this study suggests that we must think carefully about what we mean by peer group effects. If we mean that a student will tend to change in the direction of the mean of his or her peer group on a particular dimension, this is not what happened to the football and basketball players in this study. While the standard deviation for degree aspiration scores narrowed from 1986 to 1990 for those in the Other and Both groups, the variation among football and basketball players widened slightly. The above definition of peer group effects explains why students become more alike *within* a peer group, as the Other and Both

groups did, but it does not explain why the group mean itself would drop as it did for the football and basketball players, especially when it started out equal to that of other intercollegiate athletes.

If by peer group effects we mean something more dynamic than a gravitational pull toward the center, then perhaps football and basketball players have a way of pulling each other's aspirations down as a group, and the only fault of institutionally sponsored athletics programs is that they encourage people to congregate who are not the best influences on each other. Another interpretation, however, is that this data is consistent with Adler and Adler's application of the Theory of Role Engulfment (Schur, 1971, cited in Adler & Adler, 1988 and 1991) to big-time intercollegiate athletics. Role engulfment takes place when one role is made more salient than all others by the extreme attention and reinforcement it is given, so that other roles consequently become neglected until they are dropped from an individual's identity repertoire. In their study of one "big-time" college basketball team, Adler and Adler observed multiple intended and unintended sources of intense reinforcement for the role of winning athlete, but a lack of reinforcement for the academic role. Although the basketball players began college with high academic aspirations, the authors assert that for most, role commitment to academics was relatively weak, and therefore easily "dislodged" by pressure to spend even off-court time with the team, the coach's family, and boosters. "Many of the college athletes in our sample," they write, "received poor or marginal grades and had to relinquish or adjust the academic goals they had held upon entering college." (1991, p. 222)

Role engulfment might also explain Adelman's (1990) curious finding that former intercollegiate football and basketball players were the least likely of all groups to report at age 32 that their "higher education was relevant to their work," or that their occupations fell within the category "artist, athlete, or entertainer." According to Adler and Adler (1988), the goal toward which the coach rallies the athletes, and around which he forges their role identity until it becomes their "central life interest", is extremely short-term. As one ball player in their study explains "Coach's main goal is to keep producing quality basketball teams. . . His job isn't to produce accountants or NBA athletes -- it's to have a winning program." (Adler and Adler, 1988, p. 412)

In this context, the similar findings for female athletes in the present study are more understandable, despite the absence of opportunities for them to become professional athletes after college. So too is the finding that despite equal time involvement, athletes who played both football or basketball *and* another intercollegiate sport did not experience a decline in degree aspirations. Their involvement in another intercollegiate sport may very well have limited their role commitment to football or basketball and thereby helped them resist role engulfment and its whittling away of their other goals.

Finally, it is possible that the degree aspirations of football and basketball players change during college to become more realistic in relationship to their academic potentials. Football and basketball players in Adelman's (1990) study reported better access to career and academic counseling than any other group of students. Unfortunately, the measures of academic preparation in this study may say more about what opportunities students have had in the past to develop their academic talents than they do about their potentials under a set of more supportive circumstances. It is not possible, therefore, to judge from this data how realistic a student's degree aspirations were when they began college, or whether they are more or less realistic four years later.

If the minimum standard for universities and colleges were "do no harm," these findings might indicate a need for attention but not alarm. While this study, in itself, is not particularly indicative of a problem, it is one more piece of evidence that calls into question common claims that big-money athletics confer rare benefits on socially and economically disadvantaged youth. At a minimum, institutions of higher education should cease to make these claims, which are clearly self-serving, unless they can back them up with evidence from the outcomes of their own students.

If the goal, however, is to develop talent (Astin, 1985) in a way that increases the number of options students enjoy later in life, then the implications for institutions are more demanding. Already many institutions provide extensive academic support services to intercollegiate athletes. Institutions should be aware, however, that role engulfment by athletic programs may reduce the quantity and quality of students' involvement in academics to the point where they derive far less benefit from these programs than is intended (Astin, 1984). Even if institutions dictate how much

time their athletes spend studying and with tutors, these students' attention and energy may be greatly diminished by attention to their athletic role, and thus the effect of these programs may be weak. For athletes, the public, and institutional leaders themselves, the goal of extraordinary athletic excellence will always be more immediately alluring than that of ordinary academic improvement, or even extraordinary remedial achievement. Only steadfast commitment to the academic mission and to the well-being of students can compete with such a popular and high-profile enterprise as big-money college sports. A study like this one, that is, a secondary analysis of self-reported survey data, admittedly lacks the kind of descriptive richness that educators need in order to understand the process by which degree aspirations change during the college years. At least, perhaps, this study has contributed to the daunting task of teasing apart college effects from other confounding influences on the development of degree aspirations of intercollegiate football and basketball players and their counterparts in other intercollegiate sports.

Limitations

The dataset used in these analyses contains information only on students who returned follow-up surveys that were sent to them by mail. According to the publishers of the CIRP dataset (Higher Education Research Institute, 1991), loss of respondents from the freshman survey biases the data toward students who remained in college longer, were white, female, had higher high school grades and SAT scores, and went to private rather than public institutions. Nonetheless, because this study focuses on a small subset of students, it was unclear whether weighting the variables to correct for nonresponse according to the weights provided for the entire dataset would have been appropriate for this group. Weighting data to correct for nonresponse is not universally beneficial (Higher Education Research Institute, 1991; Dey, 1995), and since it was not clear what weights should be used for this subsample, I did not weight it. This fact clearly limits the interpretability of the data, however, I suspect that any error is error on the conservative side, since the subjects lost were likely to be those who were less academically successful both before and

during college, and in particular, those who had dropped out before the four-year follow-up. It is possible that a more complete set of data would have a less restricted range of student variance, and therefore reveal greater effects in the areas of interest to this study.

Another limitation involves the measure of degree attainment. Previous research has shown that football and basketball players tend to take longer to graduate than non-athletes (Adelman, 1990). This analysis does not distinguish between the 1990 degree aspirations of those who had graduated and those who had not but still eventually would. It would be inaccurate, therefore, to assume that the college experience, and any influence it might exert on degree aspirations, was finished for all respondents.

This study also makes no attempt to examine how changes in degree aspirations mediate the relationship between academic potential and career or other life outcomes. Although this is the most important question flowing from the research problem I have posed, it is well beyond the scope of this study and dataset to answer it. Longitudinal datasets that follow students through their adult lives, if analyzed with statistical controls for pre-existing characteristics, are better suited to the pursuit of this challenging question. Yet even the best datasets have limited measures of student potential, without which it is not really possible to compare institutions on their success in facilitating student talent development.

Similarly, but looking backward rather than forward, future studies of student athletic involvement should not consider its effect to begin in college. The roles of sport cultures, self-selection, and students' own decision making are complex contributors to intercollegiate athletic effects on degree aspirations and outcomes, and for most athletes, the dynamic interplay of these factors begins many years before they enter college. As with much college effects research, understanding of the process of student change would be greatly enhanced by considerations of student lives that have a scope of inquiry that looks beyond organizational boundaries.

Finally, the self-report data for specific students that I used in this study is not corroborated by data from any other source. While Adelman (1990), for instance, used transcript data to determine whether or not students had played a particular intercollegiate sport and for how long, I

relied on only one-time responses provided by students themselves. Since duration of involvement may determine the strength of effect that a college activity or subenvironment has on a student (Astin, 1984), future research should not only verify student self-reports, but seek more precise measures of students' behavioral and affective involvement.

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Table 1
Variable List

Variable Name	Definition	Survey Year
Sex	Student's sex: 1 = male, 2 = female.	1990
Race	Seven dichotomous race and ethnicity variables: White, Black, American Indian, Asian, Chicano, Puerto Rican, Other: 1 = not marked, 2 = marked.	1986
Family Income	Student's "best estimate" of parents' total income in previous year: 14 categories representing ranges of income.	1986
High School GPA	Student's answer to "What was your average grade in high school?": 1 = D, 2 = C, 3 = C+, 4 = B-, 5 = B, 6 = B+, 7 = A-, 8 = A or A+.	1986
SAT Score	Composite of student's self reported SAT verbal + SAT math scores.	1986
Degree Aspirations 1986	Student's answer to "What is the highest academic degree that you intend to obtain?: 1 = none, 2 = vocational certificate or AA, 3 = BA, 4 = MA or Divinity or Law, 5 = Doctorate or Medical degree.	1986
Degree Aspirations 1990	Student's answer to "Please indicate. . .the highest degree you plan to complete.": coded same as Degree Aspirations 1986.	1990
Degree Earned 1990	Highest degree student has earned as of June 1990: 1 = none, 2 = vocational certificate or AA, 3 = BA, 4 = MA or Divinity. (Reports of higher degrees earned than MA or Div were considered suspicious and treated as missing data.)	1990
Change in Degree Aspiration, 1986 to 1990	Computed change in student's degree aspiration: Degree Aspiration 1990 - Degree Aspiration 1986 =Change in Degree Aspirations	1986, 1990
Sport 4	Type of intercollegiate sport student reported participating in at some time during college: 1 = none, 2 = other intercollegiate sport, 3 = intercollegiate football or basketball, 4 = both intercollegiate football or basketball and some other intercollegiate sport.	1990
Sport 2	Type of intercollegiate sport: 1 = other intercollegiate sport, 2 = football or basketball.	1990

Table 2
Means of criterion variables by intercollegiate sport involvement group.

Intercollegiate Sport	Degree Earned 1990†	Degree Aspiration 1990††	Change in Degree Aspiration from '86 to '90
None	2.30	3.85	.01
Other	2.47	3.96	.06
FB/BB	2.26	3.69	-.21*
Both	2.35	3.75	.07

†Degree Earned 1990 is measured on a 4-point scale: 1=None, 2=Voc Certificate or AA, 3=BA, 4=MA or Divinity.
††Degree Aspiration in 1986 and 1990 are measured on a 5-point scale: 1=None, 2= Voc Certificate or AA, 3=BA, 4=MA or Div or Law, 5=Doctorate or Medical.
*Difference between means of Degree Aspiration 1986 and Degree Aspiration 1990 is significant at $p < .01$ level.

Table 3
Means of control variables for intercollegiate FB/BB and Other sports groups.

Inter-collegiate Sport	Race: Black*	Family Income*	Sex: Female*	Degree Aspiration 1986	High School GPA*	Combined SAT Score*	Hours Per Week
Other	1.05	8.47	1.47	3.91	5.77	1063	4.76
Football or Basketball	1.13	7.95	1.21	3.89	5.49	990	4.92

Note: Family Income is measured on a 14-point scale (7 = $30,000-34,999; 8 = $35,000-39,999; 9 = $40,000-49,999). Degree Aspirations 1986 is on a 5-point scale (3 = BA, 4 = MA or Divinity). High School GPA is on an 8-point scale (5 = B, 6 = B+). Hours per week is on an 8-point scale (4 = 3-5 hrs/wk; 5 = 6-10 hrs/wk).
*Significant at the .05 level or below.

Table 4
Multiple regression analysis for degree aspirations in 1990 on student characterics and type of intercollegiate sport played

	b	Sig
Background characteristics		
Income	0.065	
Female	-0.025	
Race (white)	-0.056	
Academic preparation		
High School GPA	0.098	*
Composite SAT	0.110	*
Degree aspiration in 1986	0.332	***
Hours per week playing sports or exercising	0.048	
Intercollegiate sport Football or basketball	-0.094	*
R^2	0.208	***

* $p < .05$; ** $p < .01$; *** $p < .001$.